3/20/92

To: Pat Young, OPINAP
From: Sheila Wiegman, BEPA
Re: "Model" Part of Cannery Permit.

I don't think "calibration" of models is the correct term. I believe this refers to "fine tuning" and adjusting the model itself — see Waste Load Allocation Study, p. 72. I would entitle this "Verification of Modelling Predictions". None of the data collected in the monitoring program would assist in model calibration any more than the previous data collected. The initial dilution & far field models are set models — not developed just for this project but are used routinely with water quality modelling. No further refinement of these models is possible. The only thing that can change are the model inputs. I don't know if the dye studies or water quality data (especially only 6 months) would lead to any changes in model inputs. I really don't believe we are concerned with the models, their calibration or verification at this point. I believe

we only want to find out if the model predictions are correct. The model predictions are: ① the size of the mixing zone required to meet the WQS, & ② that the WQS will be met by the outfall diffuser configuration. The dye study will reveal where the effluent plume actually goes, how it disperses, and possibly how long the water quality monitoring will tell us the concentration of parameters at certain points. The dye study and a discussion of the study is relative to the model predictions should actually be part of the dye study, itself. It may make better sense to include it there. Compliance with the WQS in the ambient will be routinely reviewed for enforcement. Unless there are violations, the only other reason to look at this in terms of the models would be to decrease the size of the mixing zone.

It is appropriate to review the ambient DO impacts, near and farfield. and appropriate models

and mathematical equations that can be utilized. The canneries did purport the DO Standard would be met at the ZID, edge of zone of mixing. in the mixing zone permit. ~~Verification of the~~ DO after initial dilution, and in the farfield could be calculated now and then verified by the ambient monitoring program (1yr). I would suggest this is an appropriate table. This should include the impact of BOD related to nitrogen concentration, if any. (See p. VI-20 of Revised Section 301 (h) TSD.) The eutrophication Study might assist with this. One of the ~~effects~~ of eutrophication is the low DO related to degradation of the increased phytoplankton biomass ~~as it degrades~~ sediment oxygen demand.

I do believe Steve Cook may be right, the enhanced initial dilution & dispersion at this site will likely allow the DO standards to be met.

If you want me to write up more formally, I can.

in Pago Pago Harbor. The study may be partially completed utilizing data from past and future water quality and sediment montiroing programs and/or may be conducted in conjuunction with these programs as possible.

A proposed study design shall be submitted to ASEPA and EPA for approval within six months of the effective date of the permit. The study shall be completed and report submitted to ASEPA and EPA within one year of the effective date of the permit.

I. CORAL REEF SURVEY

Within six months of the effective date of this NPDES permit, the permittee, in cooperation with Samoa Packing Co., shall submit a field study design for approval by ASEPA and EPA Region 9 to assess the potential impacts of the discharge on the nearby coral reef. The study shall include coral reef transects which shall conform to locations found on Figure 4 in the USE ATTAINABLILITY AND SITE-SPECIFIC CRITERIA ANALYSES; PAGO PAGO HARBOR, AMERICAN SAMOA, FINAL REPORT (CH2M Hill, March 15, 1991). The intent of this annual survey is to detect significant differences, if any, from the database information found in the above-cited document. Videos shall be submitted to both the USEPA and ASEPA. Guidance for designing such surveys is provided in the "Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Waters," November 1982, EPA #430/0-82-010 (pages 70-71). In addition, the discharger should consult "Ecological Impacts of Sewage Discharges on Coral Reef Communities," September 1983, EPA #430/9-83-010, for further information. The study shall be conducted within one year of the effective date of this permit and every two years thereafter.

J. ~~CALIBRATION~~ VERIFICATION OF MODELS

Within three months after both dye studies have been completed, the permittee, cooperatively with Samoa Packing Co., shall utilize the results from the monitoring data and from the dye studies to calibrate the models used in the determination of the mixing zones (the 30-second dilution zone, the ZID, and the ZOM). A report summarizing renewed predictions of dilution rates and the size, location, and movement of the plume based on the calibrated models shall be submitted to the USEPA and ASEPA. Also, through the use of an appropriate model and one year's worth of ambient data, the permittee shall examine the effects of BOD_5 in the effluent on Dissolved Oxygen (DO) in the receiving water.

K. WASTEWATER TREATMENT SYSTEM EVALUATION

The permittee shall retain an independent consultant(s) to conduct a complete diagnostic evaluation of the wastewater treatment system. The purpose of the evaluation is to review

They will pay for public notice.

3/20/92

To: Pat Young, OPINAP
From: Sheila Wi, ASEPA
Re: Cannery Draft Permits

My comments are:

1. Who is the attorney dealing with this permit? Is it Ann Watt?

2. The Section B. DISCHARGE SPECIFICATIONS should read:

Samples taken at monitoring stations 8, 8a, 14, 15, 16, 17, and 18 in the receiving water shall not reveal the following in accordance with the American Samoa Water Quality Standards:

⋮

I see this as enough information for the permit. The enforcement policy is set by the standards and approved previously by USEPA. It is our responsibility to set this. Should you guys want to reopen the ASWQS, we can do that. It is apparent the permits section does not agree with our standards. This matter can be elevated if necessary. ~~While~~ I would appreciate any help on this.

3. The Verification of Models need only be done once or twice. This section should be more specific in wording. I believe you want to verify the model's predictions, not the models. The models, other than Pago Pago Harbor, have been previously verified by theoretical and actual environmental studies or they would not be utilized. Compliance with the WQS is verification. I am unsure of the need for this whole study.

The only new model is that of Pago Pago Harbor and I believe this has been calibrated to the extent possible. It is hard for me to believe 6 additional months of data will be enough to cause a change in the actual model. Many years of data on Pago Pago Harbor (1970's - 80's), washboard data, and rain data were utilized to develop this particular model.

3/16

To: Pat Young, OPINAP
From: Sheila W., ASEPA
Re: Cannery Draft Permits

The mixing zone permit will address some of Doug's concerns on at the edge of the zone of mixing and beyond. as it specifically lays out the mixing zone, monitoring requirements, and enforcement. I suggest we add the following to each of the statements in B.

Samples taken at monitoring stations 8, 8a, 14, 15, 16, 17, 18 in the receiving water shall not reveal "the following in accordance with the 1-3- Water Quality Standards:" or "as provided in the Mixing Zone Permit issued by the EQC:"

If this is added to each of the statements starting with "Samples taken..." it would account for enforcement and interpretation of the WQS. to our satisfaction.

Let me know. Thanks.

AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY

FAX FORM

DATE: 3/19

TO: Pat Young ODINAP

FROM Shali W, BEQ

TELEPHONE: _____ FAX NO. _____

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MESSAGE

Language on eutrophication Study:

This study is not intended to be exhaustive in nature, but to provide information on phytoplankton dynamics in Pago Pago Harbor. The study may be partially completed utilizing data from past and future water quality and sediment monitoring programs and/or may be conducted in conjunction with these programs as possible.

AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY

FAX FORM

DATE: 3/18

TO: Pat Young, OPINAP

FROM: Sheila W, ASEPA

TELEPHONE: ____________ FAX NO. ____________

NOS. OF PAGES _____ INCLUDING ORIGINAL

MESSAGE

Dawn is working on the progress for Nam's statement for our annual report?

Faalusi is getting me info on last quarters inspections — will send copies of the reports. He's been out. I'll try to get med waste regs by tomorrow.

Doug Liden called re: my comments. He wanted the draft mixing zone ~~permit~~, but it's not ready for release & would likely take me a whole day to complete. He says it has to part of Admin Record — I told him just to before issuance of draft permit. Please reinforce. I would cite the WQS, then. I would have submitted it long ago if we didn't have all those monitoring snafus.

See attached letter from Tula village council. These are the kind of people/participation we want for the NPS watershed project — isn't it great?

3/20/92

Sheila:

Here are the changes to the draft permits and fact sheets for your review. Let me know if anything not ok. I have not resolved the issue re: compliance monitoring but will discuss with Terry this afternoon when he and Doug get back from Sacramento. Doug agreed to add "...in accordance with AS water quality standards..." but I told Doug that we would not sign off on the draft permits if the language is not changed from "Any individual samples...." to "Samples taken...." since compliance for some parameters is measured by multiple samples. If I don't get this resolved, I'll resign with you and we'll let Terry and Doug take over Samoa.

Pat

Total 15 pages